UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/734,635	12/12/2000	Hidetaka Oka	A-22141/US/A/CGJ 118	4752

324 7590 09/30/2004

CIBA SPECIALTY CHEMICALS CORPORATION
PATENT DEPARTMENT
540 WHITE PLAINS RD
P O BOX 2005
TARRYTOWN, NY 10591-9005

EXAMINER	
THORNTON, YVETTE C	

ART UNIT	PAPER NUMBER
1752	

DATE MAILED: 09/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/734,635
Filing Date: December 12, 2000
Appellant(s): OKA ET AL.

Tyler A. Stevenson
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed July 19, 2004.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

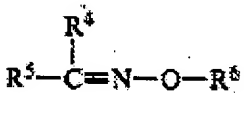
Appellant's brief includes a statement that claim 5 does not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-10 and 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laridon et al. (US 4,282,309A). Laridon teaches a photosensitive composition suited for the production of polymer resist images comprising a mixture of (1) a photopolymerizable ethylenically unsaturated compound, (2) at least one oxime ester photopolymerization initiator, and (3) at least one sensitizer (abstract). Specific oxime esters are represented by the formulae:  wherein R^4 represents a C_{1-2} alkyl group, an aryl group, an alkaryl group, an aralkyl group, a hydroxy-substituted aralkyl group or a substituted or unsubstituted acyl group. R^5 is a hydrogen atom, a C_{1-2} alkyl group, an aryl group, or a substituted or unsubstituted acyl group. R^6 represents a substituted or unsubstituted acyl group (c. 2, l. 44-68). The said acyl group is preferably derived from aliphatic or aromatic carboxylic or sulphonic acid such as benzoyl, phenylsulphonyl, acetyl, and ethoxycarbonyl (c. 3, l. 2-10). It is the examiner's position that when R^5 is hydrogen and R^4 is alkaryl, the limitations of claimed formula (I) are met wherein Ar_1 is a C_{6-20} aryl substituted with a C_{1-20} alkyl group. The examiner further takes the position that when R^6 is benzoyl, phenylsulphonyl, acetyl, or ethoxycarbonyl, the limitations of claimed substituent R_1 are met. Specifically, ethoxycarbonyl meets the limitations of a C_2-C_4 alkanoyl as set forth in instant claim 5.

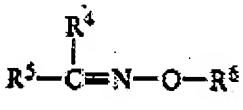
The photosensitive recording composition of the taught invention can be coated in the form of a layer on a support (c. 6, l. 3-5). It may comprise one or more ethylenically unsaturated polymerizable compounds such as styrene, acrylamide, acrylonitrile and methyl methacrylate (c. 6, l. 5-11). The photosensitive layer preferably comprises plurally unsaturated photopolymerizable compounds such as divinylbenzene, diglycol diacrylates, and pentaerythritol triacrylate (c. 6, l. 29-40). The said photopolymerizable compound can be used together with a polymeric binding agent. Suitable binding agents are polystyrene, polyvinyl acetate, copolymers of acrylic acid, methacrylic acid and unsaturated

dicarboxylic acids such as maleic acid. Especially suitable are the alkali soluble copolymers of methyl methacrylate and methacrylic acid (c. 7, l. 1-46). The taught polymerizable compound meets the limitations of claimed component (C) while the taught polymeric binding agent meets the limitations of claimed component (A). Specifically the preferred copolymer of methyl methacrylate and methacrylic acid meets the limitations of instant claim 7/6/1. The taught sensitizer (3) serves to increase the photopolymerization rate of the taught composition. The sensitizer is within the scope of general formula (A) or (B) (c. 1, l. 41-c. 2, l. 34). The said sensitizer meets the limitations of claimed component (D) as set forth in instant claim 8.

Laridon teaches many uses of the taught invention. If the support is made of a transparent resin or glass, photosensitive layers containing dyes or pigments can be used to make transparencies. If the support is made of an opaque paper, and the photosensitive layer contains dyes or pigments, opaque color proofs can be made by washing off. If the support is made of metal a photoresist can be prepared with a photosensitive coating according to the taught invention wherein the resist can be used as an etch resist (c. 8, l. 28-38). For the production of planographic printing plates, intaglio and relief images, and printed circuits, the substrates maybe stone, paper, and metal based materials suitable for etching (c. 8, l. 39-58). In the production of miniaturized integrated electrical components, the photosensitive composition serves as a shielding pattern on a semiconductor substrate wherein the desired electronic properties are added by techniques such as ion implantation, electrode-less deposition, ion milling or etching (c. 8, l. 59-66). One of ordinary skill in the art would have been motivated by these teachings to coat the taught composition in combination with pigment or dye onto a transparent substrate comprising an electrode in order to obtain a desired electronic component (i.e., a color filter, instant claim 13).

The photosensitive recording material is prepared by coating the taught photosensitive layer on a selected substrate by known coating techniques. The coating composition may comprise besides the taught ingredients, matting agents, antistatic agents, coating aid. Examples include silica particles, which

meet the limitation of inorganic filler as set forth in instant claim 10. Before their application in the form of a coating these ingredients are dissolved in a low boiling solvent, which is removed by evaporation after coating (c. 9, l. 45-60). The photosensitive coating is exposed to actinic radiation whereby the exposed areas are polymerized and the unexposed portions are removed by washing with a solvent (c. 10, l. 43-68). Any source of actinic radiation can be used in the range of 200-400 nm (c.11, l. 3-15; instant claim 14). See also claims 1, 3 and 5-9.

One of ordinary skill in the art would have been motivated by the teachings of Laridon to make a photosensitive composition comprising (1) a photopolymerizable ethylenically unsaturated compound; (2) at least one oxime ester photopolymerization initiator represented by the formulae:  wherein R_5 is hydrogen and R_4 is alkaryl; and (3) at least one sensitizer (abstract) in order to make a photosensitive coating which can be used in a large variety of applications.

(11) Response to Argument

Appellants argue that the prior art reference of Laridon (US '309.) fails to exemplify the claimed aldoxime compound and only used ketoxime compounds. Appellants acknowledge that Laridon generically encompasses aldoxime compounds but does not actually exemplify such compounds. Laridon clearly teaches that R^5 is a hydrogen atom, a C_{1-2} alkyl group, an aryl group, or a substituted or unsubstituted acyl group. R^4 is selected from a C_{1-2} alkyl group, an aryl group, an alkaryl group, an aralkyl group, a hydroxy-substituted aralkyl group or a substituted or unsubstituted acyl group. Although a compound having R^5 as hydrogen and R^4 as alkaryl group is not exemplified, one of ordinary skill in the art can readily envisage the use of hydrogen and alkaryl as suitable substituents for R^5 and R^4, respectively. Thereby rendering the claimed invention obvious over the cited prior art.

Appellants further assert that they have surprisingly discovered that the claimed aldoxime compounds have enhanced results. The declaration submitted on December 12, 2002 has been re-

considered but remains unconvincing. The said declaration uses preferred substituents for Ar_1, which may give enhanced results. The independent claim of the present invention encompasses a vast number of choices. However, the applicant has chosen only to compare two compounds having his exemplified substituents. Appellants argue that they chose compounds B1 and B2 because unsubstituted compounds are not encompassed by the instant claims. The examiner maintains the position that other compounds, other than those exemplified in the specification, could have been chosen. The examiner believes a closer comparison would have been to use a C_{6-20} aryl, which is substituted by a C_{1-20} alkyl group or a halogen group.

Additionally, the declaration fails to compare the closest prior art. The declaration uses the composition of example 31 of the present specification and the examiner is unable to make a direct comparison between the taught prior art and the claimed invention. Appellants argue that the photocurable composition of the said declaration is entirely correct and directly comparable because the declarant chose a system as close as possible to that exemplified by Laridon. The examiner disagrees. The specification uses different components and amounts than those exemplified in Laridon. For example, Laridon uses 15 mg (0.25% solid content) of ketoxime ester (A) wherein the comparative examples use 2% of the inventive compound based on solid content. A better comparison would have been to make the composition of example 1 of Laridon and substitute the taught ketoxime component for the inventive aldoxime component. While comparative results of a reduction in exposure time by more than 50% appears to be significant, the declarations does not prove that the composition of the prior art does not produce similar results.

In regard to instant claim 5, appellants argue that the said claim is narrower in scope than claim 1 and the said declaration shows unexpected results over the claimed invention. The examiner is of the position that the said declaration is not commensurate in scope with the said claim. The inventive compounds of the said declaration (B1 and B2) both exemplify R_1 being an unsubstituted benzoyl

substituent having 6 carbon atoms. Claim 5, as written, requires R_1 to be a C_2-C_4 alkanoyl. Appellants have offered no compounds wherein R_1 is a C_2-C_4 alkanoyl as set forth in the instant claim 5. Therefore, the examiner cannot make a direct comparison between the claimed invention of instant claim 5 and the cited prior art. The examiner maintains the position that Laridon teaches that R^6 can be selected from the group including benzoyl, phenylsulphonyl, acetyl, or ethoxycarbonyl. Specifically, when R^6 of Laridon is ethoxycarbonyl, the limitations of a C_2-C_4 alkanoyl as set forth in instant claim 5 are met.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Yvette Clarke Thornton
Primary Examiner
Art Unit 1752

yct
September 28, 2004

Conferees
Cynthia Kelly
Patrick Ryan

CIBA SPECIALTY CHEMICALS CORPORATION
PATENT DEPARTMENT
540 WHITE PLAINS RD
P O BOX 2005
TARRYTOWN, NY 10591-9005